

PATENT**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 10/674,930
Filing Date: Sept. 30, 2003
Applicant: Terry L. Schneider
Group Art Unit: 1774
Examiner: Brett A. Crouse
Title: Polymer Composite Structure Reinforced With Shape
Memory Alloy And Method Of Manufacturing Same
Attorney Docket: 7784-000553/CPB

Mail Stop [Amendment]
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

DECLARATION OF TERRY L. SCHNEIDER UNDER 37 C.F.R. §1.132

I, Terry L. Schneider, hereby declare under penalty of perjury as follows:

1. That I am the sole inventor of the subject matter of U.S. patent application serial number 10/674,930 filed on September 30, 2003.
2. That I received a B.S. in Chemistry with Honors from the University of Puget Sound (Tacoma, Washington) in 1977 and a M.S. in Chemistry from California State University, Long Beach (Long Beach, CA) in 1982.
3. That I have approximately 27 years experience in the materials sciences field, and 20 years experience with The Boeing Company ("Boeing") in advanced materials and structures research and development work, and that I am presently employed with Boeing as an Associate Technical Fellow with Boeing's "Advanced Materials & Structures Technology" group.

4. That I have reviewed U.S. Patent No. 6,099,969 to Ogata. In my opinion this patent does not disclose the use of shape memory alloys (SMA) nor employ shape memory alloys' unique ability to provide impact damage protection to a substrate by absorbing and dissipating kinetic energy imparted by an object impacting a substrate with a protective coating containing SMA particles. The Ogata patent deals with a coating that provides environmental protection (UV protection, moth-proofing, chemical resistance) to a substrate. Boeing's patent application does not deal with environmental resistance, but rather impact resistance or damage protection from foreign object impact upon a substrate.

5. From a chemistry standpoint, the Ogata patent focuses on using an amorphous titanium oxide or peroxide sol (a colloidal suspension) in a coating for superior weatherability, which is unrelated to Boeing's use of discreet metallic alloy particles. The oxide and peroxide forms (or derivatives) of titanium in the Ogata patent are distinctly different in their atomic chemistry and structure relative to SMA's which are elemental alloys of two or more metallic elements (e.g. NiTi (nickel-titanium) intermetallic alloy). Therefore, the oxide forms of titanium in the Ogata patent are incapable of providing the unique functionality of shape memory alloys exploited in the Boeing patent application.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Terry L. Schneider

10-22-07
Date